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Diagnosis--A Part of Content Area Reading

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One of the major trends in education is that of relating reading instruction to the content areas. Middle and secondary school content specialists have been asked to incorporate appropriate reading or learning skills into their content teaching. Many content specialists have recognized this need and are attempting to meet the challenge. Much in-service education is being provided to assist these teachers. Additionally, many state certification standards are requiring that pre-service programs provide new content specialists with necessary instruction in teaching reading in their content areas.

Content specialists see their role as that of a teacher of a specific subject area. However, it is important that these specialists also become aware of appropriate reading skills needed to enable the students to learn the content material. This concept of relating reading skills to the content areas becomes more attractive to the content specialists when they are provided practical suggestions which enhance their content teaching. While many ideas on ways to relate the content and reading skills are often provided in pre- and in-service sessions, little information is provided as to how the content specialist is to determine which students need to develop which reading skills. These are common questions asked soon after the content specialist begins to incorporate the necessary reading skills in the content areas.

In addressing this concern, one must remember that the content specialist often teaches as many as 180 students per day. In addition the prime concern is, and should always be, that the student learn the content material. Thus, when it is suggested that content specialists become involved in diagnostic instruction, the procedures given must be explicit and appropriate to the time constraints of the content specialists. The following diagnostic procedures are suggested for use as needed by the content specialist. At no time would all of the procedures be used with all students. The teacher must use them as appropriate to the situation.

Observation: To use observation techniques as a diagnostic tool, the content specialist must use some structured format such as a checklist or anecdotal records. The checklist is the easiest and least time consuming for use in the classroom. The content teacher can informally observe designated students for a few minutes during the classtime over a period of days to note such things as:

- rate of reading assignments
- understanding of material read
The observation checklist is a beginning step in determining learning difficulties the teacher gains some insight as to which students may need further testing or special assistance. Observation, however, is only a first step which can be used in arriving at a diagnosis of a reading difficulty that hinders the learning of content material. This first step may provide the content specialist with sufficient information for adjusting instruction in the classroom, determining the need for additional classroom diagnosis, or requesting a more detailed diagnosis from a reading specialist.

*Simplified Reading Inventory:* Content specialists must know which students can read the textbook and with what degree of accuracy they can read it. Thus an initial step of "trying the materials on for size" is suggested to provide the teacher with an idea of the students' reading levels as well as their strengths and weaknesses in word recognition and comprehension. This procedure may be used in conjunction with the observation checklist.

The procedure requires that each student read orally to the teacher a short selection from the textbook. Following the oral reading, the teacher asks some questions over the material. More than one oral reading error per twenty words or less than seventy-five percent accuracy in responding to the comprehension questions indicates that the material is too difficult.

*Cloze Procedure:* Another informal procedure for determining a student's reading level as well as diagnosing some possible reading difficulties is the cloze procedure. A cloze test is developed by using the textbook or other available material which is unfamiliar to the student. A cloze test is made and administered in the following manner.

1. Select a passage of 250-300 words which is on a level that the student is or should be reading.
2. Check the readability level of the passage using a readability formula such as the Fry Readability Formula (1977).
3. Retype the passage. Beginning with the second sentence, delete every fifth word. Replace each deleted word with a line—keep each line the same length.
4. Make copies of the test for students to complete.
5. Direct the students to fill in each blank with words that they think best completes the sentences.
6. When the students complete the task the papers are scored by counting as correct only those responses which are exactly as in the original selection.

The appropriate scoring criteria is as follows:

58%-100% correct Independent level
The student can read at this level with no problems.)

44% - 57% correct — Instructional level

(Teacher instruction is needed to successfully read at this level.)

0% - 43% correct — Frustrational level

(No reading should be done at this level.)

(Bormuth, 1968)

The cloze procedure provides an estimate of the level of the material the student can satisfactorily read. There are other diagnostic uses of the cloze procedure. It is a good way to evaluate the students' comprehension. If the student fills in the blank with a totally irrelevant word then the teacher can be relatively sure that the material is not understood. In addition it indicates whether or not the student uses other words in the sentence to assist in figuring out the omitted word. Students who cannot use these context clues have not fully developed their reading skills.

A third use of the cloze procedure is to determine the extent of the students' vocabulary. The teacher may ask the students to list as many words as they can think of which could complete the blank. This indicates to the teacher those students with a very limited vocabulary who will need additional vocabulary study in order to understand content material.

Utilizing the cloze procedure is a good diagnostic procedure for the content teacher since it can be administered to groups of students, thereby minimizing the loss of teaching time in diagnosing, and maximizing the amount of information gained from an instrument.

Informal Reading Inventory: Another diagnostic procedure which content specialists may wish to use with select students who seem to be having much difficulty in reading the content material is the Informal Reading Inventory (IRI). An IRI is a compilation of reading selections at various readability levels with comprehension questions to accompany each selection. This diagnostic tool is administered individually and enables the content specialist to determine the student's specific word recognition and comprehension difficulties while observing both oral and silent reading habits.

Content specialists wishing to use an IRI should ask personnel in the school district if a local inventory is available. An alternative is to purchase a commercially developed IRI from an educational publisher. Because these inventories do not relate to any one content area, the content specialists may prefer to work with the local reading specialist in developing their own IRI.

The IRI is an individually administered test, thus the content specialists may use it with only a few students per year. It is advisable that the content specialist get specific directions for administration and assistance from a reading specialist or an elementary teacher who uses the procedure more frequently. The IRI is, however, one diagnostic tool which should be at the disposal of the content specialist.

Group Reading Inventory: A Group Reading Inventory (GRI) is a procedure by which specific reading skills that are necessary to the concepts
in the content area lesson are diagnosed in a group situation. To utilize a GRI, the content specialist must first identify the concepts or content to be taught during a specified period of time. Then the reading skills which are necessary in order to learn these concepts must be defined. With this information the GRI can be developed.

The GRI should be used to assess those reading skills necessary to learn a certain portion of the content, for example a unit in social studies. For each of the identified reading skills, the teacher should utilize three to five questions to measure the skills. For example, in a unit on the “Second World War: The Pacific Front” the teacher identified the following information.

**Concept Generalizations**
- To determine the location of Pearl Harbor.
- To understand the meaning of the quote “I shall return.”
- To understand the significance of the Battle of the Coral Sea.
- To understand the term “unconditional surrender.”
- To realize the impact of the use of the atomic bomb on Hiroshima and Nagasaki.

**Reading Skills**
- Using the Atlas
- Interpretation
- Cause-effect relationships
- Main idea
- Word meanings
- Prefixes
- Drawing conclusions
- Anticipating outcomes
- Evaluation

For each of the identified reading skills, questions such as the following may be developed.

I. Vocabulary Development
A. Word Meaning: Directions—Turn to page 30. Write a brief definition of the term “unconditional surrender.”
B. Prefixes: Directions—Turn to page 30. Now that you have defined the term “unconditional surrender,” what does the prefix un mean?

II. Comprehension
A. Author’s purpose: Directions—Turn to page 25. What does MacArthur mean by the quote “I shall return”?
B. Cause-effect relationships: Directions—Turn to page 28. What is the significance of the Battle of the Coral Sea?
C. Evaluation: Direction—Turn to page 31. How important was the decision to use the atomic bomb on Hiroshima and Nagasaki?

D. Anticipating outcomes: Directions—Turn to page 32. How has this decision to use the atomic bomb in World War II affected present day relationships between countries?

III. Reference Skills

Using the Atlas: Directions—Turn to the map on page 35.
Locate the Pearl Harbor Naval Base.

Thus the student is asked to read specified materials and to respond to the questions prior to beginning the unit. With information as to each student’s knowledge of necessary reading skills, the teacher can determine ways to group to develop the skills and better teach the content.

The GRI should be administered several times during the year as content specialists find it necessary to know the skill strengths and weaknesses of their students. In addition, it is necessary to use materials at varying levels to assess the skills. Usually the textbook may be used with those reading at or above level, a textbook from a little lower level with those who are two or three years below grade level, and an elementary textbook for those much below level. Unless this differentiation is made, the teacher will not know whether the student does not know the skill or just cannot read the material!

Criterion-Referenced Tests: The criterion-referenced test is designed to measure what a student knows or can do relative to a specific objective. These tests do not compare one student’s performance with that of another. Simple criterion-referenced tests may be developed by the teacher in conjunction with daily class activities. The following procedure may be followed:

1. Specify the objectives or concepts which are to be developed in the lesson. This is the same procedure as outlined in the discussion on Group Reading Inventory.
2. Provide questions and activities which measure the student’s understanding of these ideas.
3. Set a specific standard that the students are expected to achieve to indicate a knowledge of the concept.
4. Use these questions and activities in daily teaching exercises.
5. Keep a class checklist containing each student’s achievement. Use this as a guide for reteaching.

Content teachers are given large classes of students on many different levels and are expected to teach the students the concepts related to social studies, science, business, or any other area outlined in the curriculum. Many of these students have reading difficulties which prevent them from learning the content material unless some additional teaching is provided. Thus content teachers have been asked to help students learn to read content material. A major step in providing this type of instruction is to know how well the students can read the content material as well as in which areas they seem to be having difficulties. The six informal diagnostic
procedures outlined in this article will assist teachers in becoming more knowledgeable about the specific learning needs of the individual student.

BIBLIOGRAPHY
